

**REMARKS**

Claims 1-3, 5-20, 22-31, 33-49 were presented for examination.

Claims 37, 45/37, 46/37 and 47/37 were allowed.

Claims 45/35, 45/40, 46/35, 46/40 are objected to.

Claims 1-3, 5-20, 22-31, 33-36, 38-44, 45/12, 46/12, 47/1, 47/12, 47/24, 47/35, 47/40, 48 and 49 are rejected.

Claims 4, 21, 32, 43-46 and 49 have been canceled.

Claims 1, 3, 5, 6, 8, 11, 12, 16, 17, 23, 24, 26-28, 35-42 and 47 have been amended, consistent with the specification, to more clearly and correctly define the invention that is the subject of this application and to correct grammatical errors. Support for the amendment to claim 3 can be found at p. 6, 16-22. Claims 12, 24 and 39 have been amended to distinguish over the prior art. Support for the amendment to claims 12, 24 and 39 is found at p. 7, 5-25, p. 9, 21-25, p. 11, 1-10 and FIG. 1 of the drawings. Support for the amendment to claim 47 at p. 10, 4-16 in the inherency of deforming.

New claims 50 and 51 have been added. Support for new claims 50, 51 and 52 is found at p. 7, 18-25 and at p. 8, 9-25. No new matter has been added.

Pursuant to the provisions of 37 CFR §1.97(c) an Information Disclosure Statement and a statement as specified in 37 CFR §1.97(c)(1) accompany this paper.

**Objections**

1. In response, Applicant notes that in the Office Action Summary Examiner objects to claims 45/35, 45/40, 46/35, 46/40, as noted above, whereas in the Detailed Action Examiner objects to entirely different set of claims. However, since claims 43-46 have been canceled the objection to claims 45/35, 45/40, 46/35, 46/40 is now moot.

2. Insofar as the objection to claims 8 and 26. Applicant calls Examiner's attention to the fact that claim 8 depends from claim 3, which provides proper antecedent basis and that claim 28 depends from claim 1, which also provides proper antecedent basis.

3. With regard to the objection to claim 47, the recitation in amended claim 3, from which claim 47 depends, of " $\pi$ -conjugated polymers having long chains of alternating single and double carbon-carbon bonds" provides proper antecedent basis in the recitation of "polymer chains" in claim 47.

The objections to claims 8, 26 and 47 having been overcome, Applicant urges reconsideration and withdrawal of the objection.

Rejection under 35 USC §112

4. Claims 36, 38, 39 and 40 are rejected under 35 USC 112, second paragraph, as being indefinite.

5. Claims 36 and 38 have been amended to remove the term "about".

6. Claim 40 has been amended to remove the phrase "having a small volume and a high surface area".

7. Insofar as claim 39, Applicant traverses the rejection. Amended claim 39 now recites "A device for measuring radiation dose to human tissue" which may or may not include human skin. However, it is well established that a claim that is understandable to one skilled in the art and that defines subject matter that Applicant regards as the invention meets the requirements of 35 USC 112, second paragraph. In rejecting claim 39 Examiner asserts, without providing supporting evidence, that human skin varies in density and composition from person to person and from one area of the body to another. It is Applicant's position that this assertion, may very well be correct, however, claim 39 now claims human tissue for which the assertion may or may not be correct. Moreover, variations in density and composition in claimed human tissue, if such were true, would

be known to one of ordinary skill in the art of measuring radiation doses to the human body and thus, that person would be able to select the appropriate  $\pi$ -conjugated polymer having C:H ratio and density substantially equal to that of human tissue, as claimed. Therefore, Applicant urges that the rejection of claim 40 under 35 USC §112, second paragraph is misapplied and requests reconsideration and withdrawal of the rejection.

Rejection under 35 USC §102

8. Claims 1-3 and 8-9 are rejected under 35 USC §102(b) as being anticipated by Argyropoulos (6,106,742). Applicant traverses the rejection.

35 USC §102(b) provides, in part, that the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. Argyropoulos issued August 22, 2000. The instant invention was filed May 22, 2001 less than the one year required by the statute. Applicant urges that the rejection is of claims 1-3 and 8-9 under 35 USC 102(b) as being anticipated by Argyropoulis is improper and requests that it be withdrawn.

9. Claim 35 is rejected under 35 USC §102(b) as being anticipated by Argentieri (5,241,415). Applicant traverses the rejection.

Argentieri teaches a preferred embodiment of his invention in which a microresistance heating element consisting of a grid of heating wires is embedded in a clear Mylar film (col. 3, 3-11).

As amended, claim 35 recites, a device for detecting ionizing radiation, comprising: an array of wires embedded in a solid organic semiconducting material consisting essentially of a  $\pi$ -conjugated material, the array comprising a first set of parallel spaced apart wires intersecting

orthogonally with a second set of parallel spaced apart wires; and means for supplying power to the array.

In the first place, claim 35 recites a semiconducting material consisting essentially of a  $\pi$ -conjugated material, which, contrary to Examiner's express representation, does not apply to Mylar. Mylar is a polyester film and thus, clearly is not a  $\pi$ -conjugated material, as claimed. In the second place, by virtue of the fact that Argentieri embeds heating wires in his Mylar film, wherein the wires are heated by passage of an electric current, Argentieri's Mylar film is clearly an insulator and not the claimed semiconductor material.

Argentieri does not describe the claimed invention so that the public is in possession of it (i.e., the reference does not enable the claimed invention). The rejection is not supported by the cited reference in that Argentieri does not identically disclose the claimed invention as required for a finding of anticipation, i.e., there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. A prima facie case of anticipation not having been made Applicants request reconsideration and withdrawal of the rejection of claim 35.

10. Claim 40 is rejected under 35 USC §102(a) as being anticipated by Hodges (6,174,420). Applicant traverses the rejection.

Hodges is directed to a thin-layer electrochemical cell and the manufacture thereof. Hodges cell consists of an electrically resistive sheet having an aperture therethrough, thin electrodes on either side of the electrically resistive sheet defining a cell therebetween, wherein the electrodes are conductors or semiconductors. In a preferred embodiment, the aperture is of a circular cross-section. Contrary to Examiner's express representation, nowhere does Hodges teach, show or disclose the embodiment of the invention disclosed in claim 40, namely a pair of

electrodes, a solid organic semiconducting material consisting essentially of a  $\pi$ -conjugated material having an electrical resistivity of at least  $10^9$  ohm-cm disposed between said electrodes, wherein the combination of electrodes and  $\pi$ -conjugated material is rolled up along its length to form a generally cylindrical-shape structure. In support of his rejection Examiner cites Fig. 15 of Hodges. In the referenced figure Hodges shows a plurality of flat planar electrode structures surrounding a central aperture cell. Nowhere does Hodges show or teach the claimed structure comprising electrodes, and a solid organic semiconducting material consisting essentially of a  $\pi$ -conjugated material having an electrical resistivity of at least  $10^9$  ohm-cm rolled up along its length to form a generally cylindrical-shape structure.

Based on the argument above, the rejection of claim 40 under 35 USC 102(a) as being anticipated by Hodges is clearly misapplied and Applicant requests reconsideration and withdrawal of the rejection of claim 40.

#### Rejection under 35 USC §103

11. Claims 3 and 7 are rejected under 35 USC §103(a) as being unpatentable over Argyropoulos (6,106,742) in view of Wang (5,663,238). Applicant traverses the rejection.

Claims 3 and 7 depend from claim 1, which recites a material for detecting ionizing radiation, comprising a solid organic semiconducting material consisting essentially of a  $\pi$ -conjugated material having an electrical resistivity of at least  $10^9$  ohm-cm. Argyropoulos discloses and describes an invention that is entirely different from that claimed namely, higher solids conductive coating compositions comprising 1) a conductive pigment, 2) a non-conductive polymeric binder and 3) a solvent, wherein examples of conducting pigments are various carbon blacks, powdered graphite, powdered or flaked metals. The addition of the copolymer

esters of Wang to produce paints with superior thermal, mechanical, barrier and chemical resistance has absolutely no bearing whatsoever on the claimed invention and thus, is moot insofar as rendering the claims obvious.

12. The rejection of claims 5, 6, 10 and 11, which depend from claim 1, over Argyropoulos stand or fall with claim 1.

13. Claims 12-15, 19-20, 24, 25, 41, 42, 47/12 and 47/24 are rejected under 35 USC §103(a) over Fukushima (5,876,586) in view of Argyropoulos. Applicant traverses the rejection.

Fukushima teaches a highly conductive polymer composition and method for making same, wherein the highly conducting polymer composition comprises an electrochemically oxidized polysilane. Fukushima discloses an entirely different invention than the claimed solid organic semiconducting material consisting essentially of a  $\pi$ -conjugated material as claimed in independent claims 12, 24, 41, 42 or 47. There is simply no correspondence whatsoever between the teaching of Fukushima and the claimed invention. For reasons completely unclear to Applicant, rejection appears to be based on the use of testing apparatus disclosed by Fukushima to test the conductivity of the claimed material. What that has to do with the claims being examined is totally opaque to Applicant. Moreover, there is no suggestion in either Fukushima or Argyropoulos that they be combined or, for that matter that they could and still produce an operative combination, as required by 35 USC §103. However, even if Fukushima and Argyropoulos could be combined in some fashion, the combination of Fukushima and Argyropoulos still does not render the claimed invention obvious as required by 35 USC §103. Therefore Applicant requests reconsideration and withdrawal of the rejection of claims 12-15, 19-20, 24, 25, 41, 42, 47/12 and 47/24.

14. Claims 16, 17, 27, 28, 15, 18, 26, 29-31, 22, 23, 33 and 34 are rejected over Argyropoulos, Fukushima, Tiitu, Testa, and Wang and various combinations and permutations thereof. Applicant traverses these rejections. The rejected claims all depend from one of base claims 12 or 24 and thus stand or fall with base claims 12 or 24.

15. Claim 36 is rejected under 35 USC §103(a) as being unpatentable over Argentieri (5,241,415). Applicant traverses the rejection.

Rejection appears to be based on the assertion that while Argentieri teaches the claimed invention, namely a device for detecting ionizing radiation, comprising: an array of wires embedded in the material of claim 1, the array comprising a first set of parallel spaced apart wires intersecting orthogonally with a second set of parallel spaced apart wires; and means for supplying power to the array, wherein the wires are spaced at a distance of from 10 $\mu$ m to 100 $\mu$ m apart, however, Examiner admits that Argentieri does not disclose the claimed 10-100  $\mu$ m spacing.

Moreover, Examiner asserts that the claimed separation would be a matter of design choice to promote greater heating uniformity and efficiency. As Applicant has shown the claimed wire spacing is desirable in order to successfully track 1-10 meV fission neutrons (p. 8, 16-22) and thus, is not a matter of design choice but is the spacing required to track accurately 1-10 meV fission neutrons. Applicant urges that the rejection of claim 36 is misapplied and request reconsideration and withdrawal of the rejection of claim 36.

16. Claims 43-46 having been canceled these rejections are now moot.

17. Claims 47/1, 47/35, 48 and 49 are rejected under 35 USC §103(a) as being unpatentable over Argyropoulos, Fukushima and Argentieri. Applicant traverses the rejection.

Base claim 47 has been amended by limiting the application of external stress to stretching. Rejection appears to be based on the

application of an electric field to promote stress. With the amendment to base claim 47 the rejection is now moot and Applicant requests reconsideration and withdrawal of the rejection of claim 47 and claims 48 and 49 dependent therefrom.

18. Claims 47/40, 48 and 49 are rejected under 35 USC §103(a) over Hodges (6,174,420). Applicant traverses the rejection.

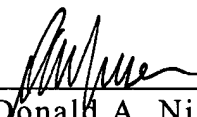
Rejection appears to be based on Examiner's assertion that by applying electricity to electrodes formed of Pd on a Mylar substrate the molecules of the Mylar substrate are oriented. That may very well be, however, amended claim 47 claims the process of stretching the claimed  $\pi$ -conjugated polymers to orient the polymer chains. It is obvious that the rejection is misapplied and Applicant requests reconsideration and withdrawal of the rejection of claims 47/40 and claim 48, dependent therefrom.

#### CONCLUSION

Applicant having overcome the rejections of claims 36, 38, 39 and 40 under 35 USC §112, second paragraph, claims 1-3 and 8-9 under 35 USC §102 and the rejection of claims under 35 USC §103, requests withdrawal of the rejections, entry of new claims 50-52 and that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Date: 10/14/2005

  
Donald A. Nissen  
Registration No. 44,261  
1025 NW Couch St. #1212  
Portland, OR 97209  
Telephone (503) 226-8025





## Certificate of Mailing Under 37 CFR §1.8

I hereby certify that this Correspondence and documents referred to herein were deposited with the United States Postal Service as first class mail addressed to: Commissioner of Patents, PO Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Date of Deposit: 10/25/05

Person making Deposit ANNA SIMENAZSignature *Anna Jimenez*

Application No: 09/863,128

For Applicant: Doty